IMPROVEMENT OF THE EFFECTIVENESS OF THE SYSTEMS OF MICROCLIMATE MAINTENANCE IN LIVESTOCK BUILDINGS OF AGRICULTURAL INDUSTRIAL COMPLEX

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The effectiveness of the systems of microclimate maintenance in livestock buildings of agricultural industrial complex is to improve the ratio of useful effect to the total cost of this task. The solution of this problem is possible with the use of an automatic system for maintaining of specified parameters of microclimate with more accurate and rapid determination, which contributes ultimately to save electricity.

The aim of the research is the proposal and implementation of electronic transducers with a low time constant to measure temperature and moisture content in the microclimate systems in livestock buildings of agricultural industrial complex.

Microclimate means a set of air parameters such as temperature, moisture, travel speed, gas composition that characterize its composition in the livestock building.

The analysis of norms DIN 18910 showed the need for an appropriate system for the maintenance of microclimate in livestock buildings, especially in winter. According to the analysis, the system for maintenance of microclimate parameters based on multilevel system of floor heating using thermoelectric converters and ventilation, with the use of operational humidity sensors based on the electric converters is proposed.

The scheme of measurement of temperature with the thermal transistor and the system of automatic control of microclimate in a livestock building are considered for improving of microclimate characteristics.

The accuracy of determining of these parameters with sufficient speed can prevent unnecessary power consumption in the maintaining of the microclimate in livestock buildings. One of the modern automatic control systems of microclimate parameters achieves the optimal microclimate.

In the conditions of increase of electricity tariffs, the application of the proposed converters can provide some economic effect.